

PRODUCT SHEET



Common Names:

Glass Fiber Reinforced Gypsum | GFRG
Glassfiber Reinforced Gypsum | GRG

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Manufacturer:

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GFRG (Glass Fiber Reinforced Gypsum)

Wilson Composites GFRG is a versatile composite material made from high-strength alpha gypsum cement reinforced with glass fibers. It can be molded into various shapes and sizes, making it ideal for architectural elements in interior construction and renovation projects. GFRG is lightweight, strong, and sustainable, offering a modern alternative to traditional plaster castings.

Detailed Description

GFRG is a white gypsum cement material molded into architectural elements for interior use. It is lightweight, weighing approximately 2 lb/ft², and can be finished on-site with paint or pre-finished in the factory. GFRG's alpha gypsum distinguishes it from softer gypsum used in drywall and plaster, offering superior hardness and flexural strength.

GFRG often incorporates steel or wood embedments for enhanced strength and attachment options. Its precision molding ensures dimensional accuracy and easy assembly. GFRG's lightweight nature reduces framing requirements, contributing to faster and more cost-effective installations compared to field-constructed elements.

Environmentally, GFRG is a sustainable choice, minimizing raw material usage and associated environmental impacts. It is commonly used for decorative ceilings, domes, columns, wall cladding, moldings, and other intricate shapes.

Cleaning and Maintenance:

- Clean with a soft, damp cloth.
- Avoid abrasive cleaners or harsh chemicals.
- For painted surfaces, follow paint manufacturer's cleaning recommendations.

Technical Data

ASTM International (ASTM)

C1381 Standard for Molded Glass Fiber Reinforced Gypsum Parts

C1467 Standard for the Installation for Molded Glass Fiber Reinforced Gypsum Parts

C1355 Standard for Glass Fiber Reinforced Gypsum Composites

(Refer to ASTM C1381, C1467, C1355 and ISO 1182, 1716)

Flexural Strength (Ultimate):	32 MPa (4,700 psi)
Flexural Strength (Yield):	13 MPa (1,875 psi)
Flame Spread:	0
Smoke Development:	0
Behavior at 750°C:	Pass
Coefficient of Linear Thermal Expansion:	3 x 10 ⁻⁶ mm/mm/°C (5.5 x 10 ⁻⁶ in/in/°F)
Humidified Deflection:	3 mm (1/8")
Nail Pull Resistance:	782N (176 lb/ft)
Impact Resistance:	~347 J/m (6.5 ft lb/in)
Barcol Hardness:	60
Rockwell Hardness:	72 (M scale)

Preparatory Work:

- Ensure substrate is clean, dry, and level before installation.
- Follow manufacturer's recommendations for joint treatment and finishing.
- Priming and painting should be done in accordance with paint manufacturer's instructions.

Physical and Mechanical Properties

Matrix:	Alpha Gypsum Cement
Finish:	Standard unfinished (white to off-white), factory finishes available.
Surface:	Smooth standard, custom-molded textures available.
Density:	~1675 kg/m ³ (105 lb/ft ³)
Weight:	7-10 kg/m ² (1.5-2 lb/ft ²)
Shell Thickness:	5 mm (3/16") nominal
Edge Thickness:	19 mm (3/4") typical
Embedments:	Galvanized steel or wood (if needed)
Glass Fiber Content:	5% typical
Max. Molding Length:	3.6 mm (12 ft)
Max. Molded Part Size:	3.7 m (40 ft ²)

Manufacturing Tolerances

Shell Thickness:	±1.5 mm (±1/16")
Dimensional (all directions):	Parts 8 ft to 16 ft: ±3.2 mm (1/8")
	Parts > 16 ft: ±5 mm (3/16")
Warpage or Bowing:	±1.5 mm/300 mm (±1/16"/ft)